INSTRUCTIONS

for

Making Blue Prints

The Largest Manufacturers of Blue Printing Machinery in the World

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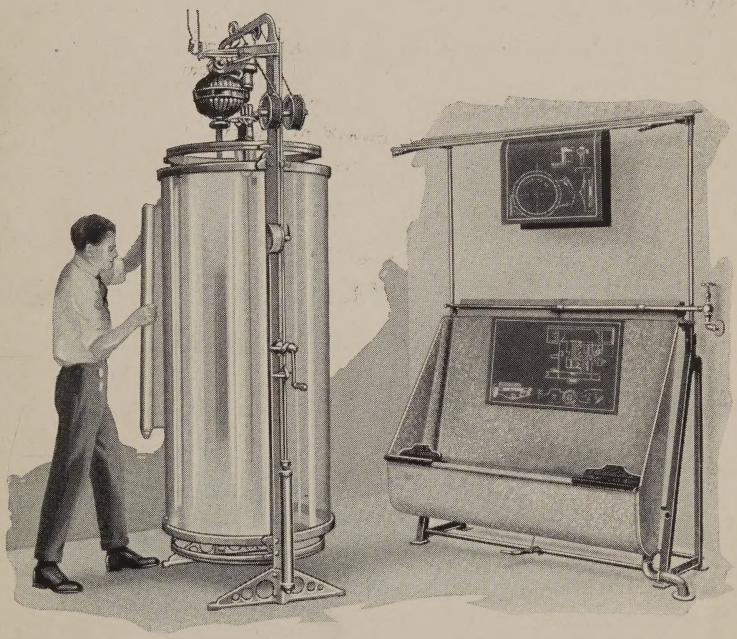
Instructions *for* Making Blue Prints

with the

PEASE VERTICAL BLUE PRINTING MACHINE,
PEASE SHEET WASHER *and*
PEASE SHEET DRYER

PEASE
CHICAGO



Manufactured Exclusively by

THE C. F. PEASE COMPANY

General Offices and Factory — 813-821 N. Franklin St.

CHICAGO, ILLINOIS, U. S. A.

Eastern Sales Office—Grand Central Terminal Bldg., New York City

DISTRICT REPRESENTATIVES

Pittsburgh	Detroit	Topeka	San Francisco
Cleveland	St. Louis	Los Angeles	Ottawa

Cable Address: Peaseco Chicago. Codes: Bentley, A. B. C. and Private

Form No. 3001 5M 5-15-25

Pease Vertical Blue Printing Machine Shipped Completely Assembled

THUS you can readily start work with the Pease Vertical a few minutes after you have received it. Even the glass is in place and it is necessary only to remove the shipping box, hang the lamp in place and connect the feed wires; after which it is all ready to operate.

The Pease Vertical Blue Printing Machine consists of two half cylinders of glass held in place by a frame entirely of metal. It is self-contained, no part being attached to the wall or ceiling; it can, therefore, be placed at any convenient point, and can be moved from one part of the room to another at will.

The floor space required is only three feet square. Every machine carries the Pease guarantee of satisfaction and service.

Directions for Operating the Pease Vertical Blue Printing Machine and Sheet Washer

FIRST—Cut Blue Print Paper to size. Place tracing right side up on blue print paper.

SECOND—Push Back Curtain and load machine beginning at the top, placing the tracing against the glass, blue print paper against tracing. It will be noticed that the curtain holds tracing in place without danger of slipping so that any number of tracings can be placed on the glass until it is completely covered. This is only true of the Pease Vertical machine.

THIRD—Roll Curtain gradually to front till all tracings have been placed. Be sure that all tracings of one density are printed together. You cannot print a heavy tracing where pencil lines are used at the same time with a clean cloth tracing where ink is used and give them the same exposure.

FOURTH—If the Operator wishes to print a number of small tracings at one time this can be easily accomplished by cutting the blue print paper to full capacity of the machine, laying the tracing face up on this paper while still on the table and rolling the paper and tracings together in the form of a long tube. Thus the paper and tracings can be easily handled without danger of tracings slipping. Slightly unroll and start the first edge of this combined roll of paper and tracings under the edge of the curtain and as the operator unrolls the paper, follow closely with curtain roll of machine which will hold all tracings securely in place. In this form of handling small tracings with a number of prints on one large sheet, they may be washed and dried to great advantage on our Pease Sheet Washer.

FIFTH—Watch Time Control on the liquid cylindrical speed regulator. A little practice will soon enable the operator to decide just what exposure is necessary. This must vary with the printing speed of the blue print paper being used, as well as the density and character of the tracing and the printing speed of the lamp.

SIXTH—After the Machine has been loaded turn on the electric arc lamp allowing it to burn for a minute or two before starting the speed controller. Note the cut-off on the speed controller gear rack above the switch which enables the operator to cut off the light at any point in the lamp's travel.

SEVENTH—If the Operator wishes to know that the proper exposure has been given move the curtain back slightly and turn up the corner of the blue print paper. If the proper amount of exposure has been given light lines will be visible on the blue print paper. If sufficient exposure has not been given, draw up lamp as far as it will go and start controller so as to allow the lamp to drop again.

EIGHTH—Our Pease Universal (U-V) High Power Arc Lamp is furnished with all Pease Vertical Blue Printing Machines. This lamp is the result of years of experimentation on our part and is unquestionably the fastest and best constructed lamp ever produced for blue printing purposes. It is of the enclosed arc type, very rich in printing value, and may be used on either direct or alternating current by making slight changes.

NINTH—Lamps Enclosed in a Globe are very much easier on the eyes than open flame lamps. They do not use up the oxygen of the room nor emit an unpleasant odor.

TENTH—The Pease U-V Lamp can be used very successfully in ALL makes of vertical blue printing machines and most makes of continuous machines.

ELEVENTH—We Recommend 220 Volts wherever possible, as this voltage gives much faster printing and does not increase the electrical consumption.

TWELFTH—To Obtain Best Results the Pease U-V Lamp should show 160 volts across the carbon points for a 220-250 volt circuit, and 85 volts across the carbon points for a 110-125 volt circuit.

THIRTEENTH—Our No. 4026 Peerless Heat Resisting Globes are used in the Pease U-V Lamp. Be sure to specify them, as they are manufactured especially for this lamp.

FOURTEENTH—Be Certain That the globe fits up tight against the globe cap and that the globe is always kept clean. A slight discoloration of the globe will easily reduce the printing speed of the lamp fully 25%, while if too much air is admitted to the globe a flaming arc or red light is produced which has no printing value. If lamps show a little yellow or reddish flame when first started up, disregard this until the lamp has had a chance to heat up.

WHEN ORDERING PARTS PLEASE
GIVE SERIAL NUMBER OF MACHINE.

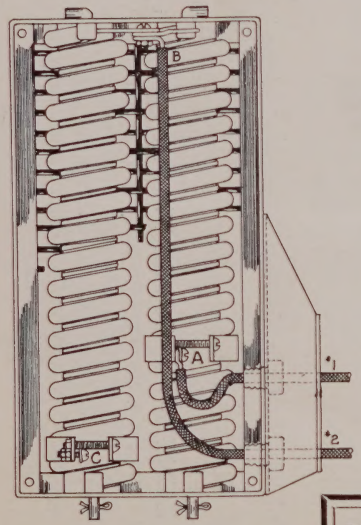
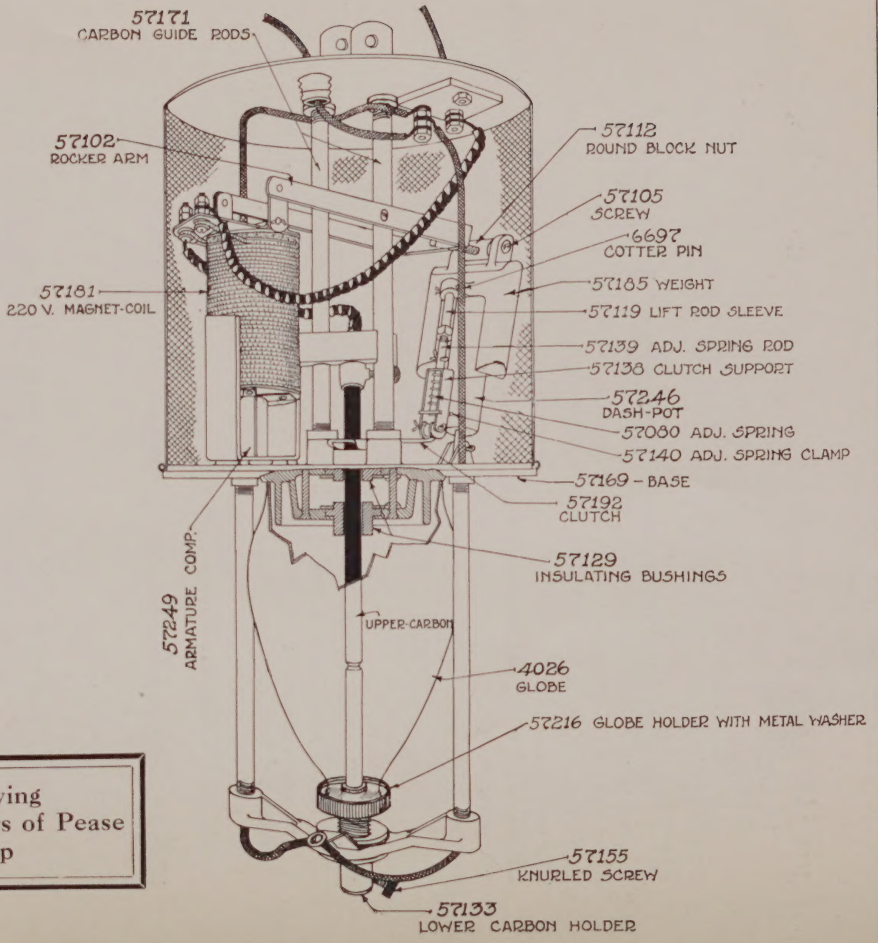


Diagram Showing
Parts Numbers of Pease
U-V Arc Lamp



FIFTEENTH—Lamps are Provided with a spring base which takes care of the expansion and contraction of the globe and prevents globe breakage. Never use a lamp without a globe or use a globe which you have cracked, as you are only wasting electricity and getting poor results.

SIXTEENTH—Be Certain, Also, to Use our Peerless Carbons, as they are far superior to any other carbons for use in blue print lamps. They will burn for 24 hours without retrimming and do not smoke up the globes. Specify Pease Solid Carbons No. 57212 for direct current, and Pease Cored Carbons, No. 57213, for alternating current.

SEVENTEENTH—On a Direct Current Line the upper carbon MUST BE POSITIVE. Polarity is of no consequence on alternating current. In case of direct current, polarity can be determined by turning off the switch after the lamps have burned ten seconds and noting the carbon having the hottest point. This should be the upper carbon. If not, reverse the connection at the switch on the lamp.

EIGHTEENTH—See That the Carbons are properly trimmed and burn evenly. Trim direct current lamp with two ½″ solid carbons. Trim alternating current lamp with one ½″ cored carbon (not white flame) and one ½″ solid carbon. In both cases always use 10″ upper and 5″ lower carbons. UNDER NO CONDITIONS TRIM THESE LAMPS WITH WHITE FLAME CARBONS.

NINETEENTH—To Trim Lamps remove lower carbon by unscrewing lower holder to the left. Screw globe holder down as far as possible, remove globe and loosen screw holding upper carbon. Upper carbon may then be removed through lower holder. Reverse the above operation for replacing carbon and globe. In replacing the globe, lower holder should be screwed up against globe until GLOBE SEAT is slightly compressed.

TWENTIETH—After You Have Installed the Pease U-V Lamp, see that all moving parts move freely—also that none of the screws have been loosened in shipment. Always tighten upper and lower carbon holder screws so as to prevent damage to holders.

TWENTY-ONE—Never Oil Dashpot nor sandpaper the graphite piston. If the lamp sticks it is due to other causes, and not to the dashpot.

TWENTY-TWO—When Ordering Parts refer to numbers shown on diagram on pages 8 and 9.

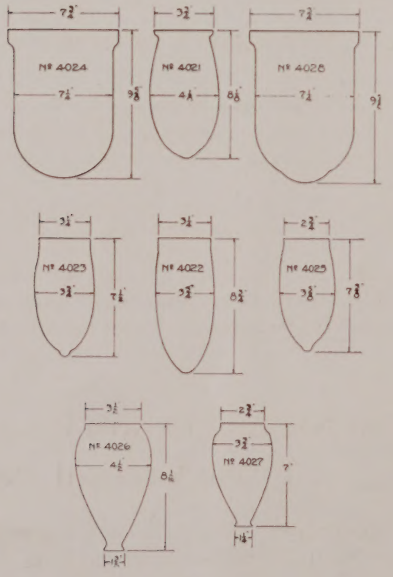
TWENTY-THREE—After the Exposure has been made and the lamp turned off, roll back the curtain and take out the tracings and blue print paper. Then place the exposed sheets of paper in the sheet washer as described in the following pages, after which hang the prints on the rods above the sheet washer to dry.

TWENTY-FOURTH—For Permanency and to intensify the color, the blue prints should receive somewhat longer exposure to the electric light and after washing with a spray of running water, a 5% solution of Bichromate of Potash or Bichromate of Soda should be applied, using one of the small trays shown at the foot of the washer and applying with a wide brush while the blue print remains in the washer.

TWENTY-FIFTH—After This Is Done turn a spray of clear water on the prints and then hang them up to dry. Bichromate of Potash sometimes affects the hands, and especially if cut or sore, similarly to the way poison ivy affects them, hence the advantage of applying the solution with a brush.

Diagram of Peerless Heat Resisting Globes for Blue Print Lamps

No. 4026 Globe is used in Pease U-V Lamps.
No. 4027 Globe is used in Peerless Universal Lamps.
No. 4023 Globe is used in Peerless six ampere Lamps.



Note: Complete Instruction Book for Operating Peerless Continuous Blue Printing Machines, showing parts numbers, will be sent without cost, on request.

Directions for Producing Negative Prints on the Pease Vertical

FIRST—Negative Prints may be made by placing the tracing upside down on a piece of negative or Van Dyke paper (our No. 1222) exposing it the same way as blue print paper excepting that it requires two to three times as much exposure.

SECOND—After Negative Paper is properly exposed it should be placed in the sheet washer and the spray of water allowed to run over it for fully five minutes in order to thoroughly wash off the surplus chemical.

THIRD—After This Has Been Done brush over the exposed surface of the print a solution of fixing salts, which may be readily carried in one of the small trays at the foot of the washer.

FOURTH—After the Fixing Salts have been brushed over, again turn on the spray of clean water and wash off the surplus chemical, after which the negative may be hung on the rack for drying.

Directions for Making Blue Line Prints on the Pease Vertical

FIRST—A Blue Line Print may be made by placing the negative right side up on a piece of blue print paper and exposing it the same as for a blue print, only for about two or three times as long a period.

SECOND—After the blue line exposure has been made, hang the exposed sheet in the sheet washer and wash it in the same way as the blue print described above.

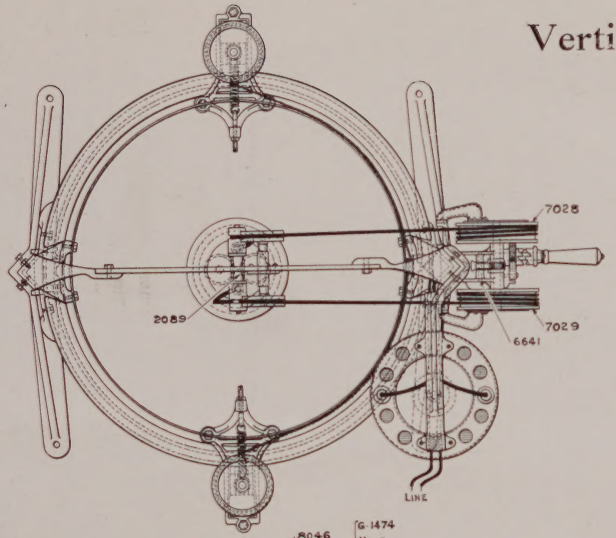
THIRD—Best Results for blue line prints are obtained by using our Puritan No. 6153 Electric or Rapid speed paper, from which prints with perfectly white background may be secured if the paper has been properly exposed.

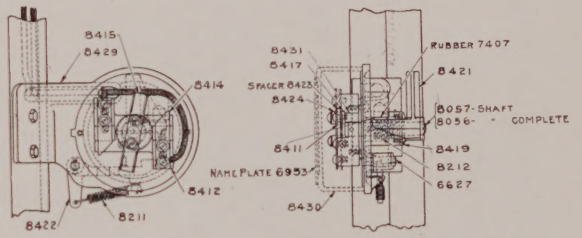
Directions for Making Brown Line Prints on the Pease Vertical

FIRST—Brown Line Prints are made by printing from the negative (previously described) onto our No. 1223 Perfection Brown Print paper or our No. 2283 Perfection Brown Print Cloth. If the brown line prints are to be used as tracings use No. 1222 Perfection Brown Process paper or No. 2281 Perfection Brown Process Cloth.

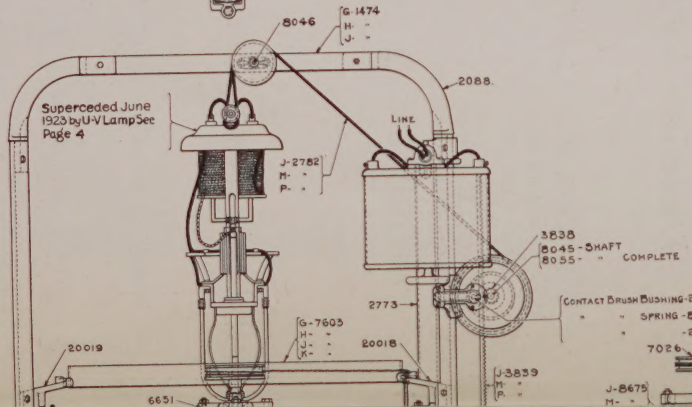
SECOND—Expose Tracing and print to the light until a clear image is obtained and the margin of the print is a light chocolate brown. The image will be in chocolate brown lines on a canary yellow background.

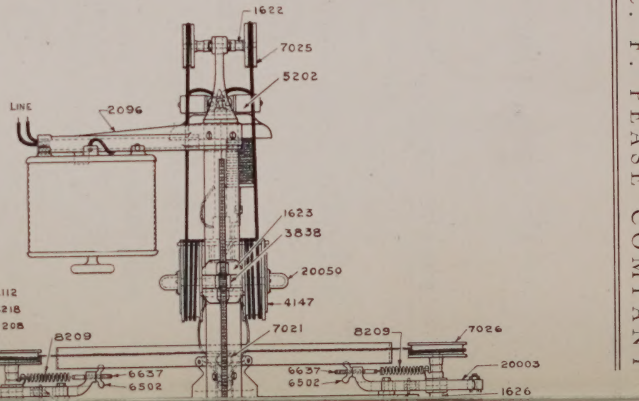
Vertical Printer Assembly and Parts List for Ordering Replacements

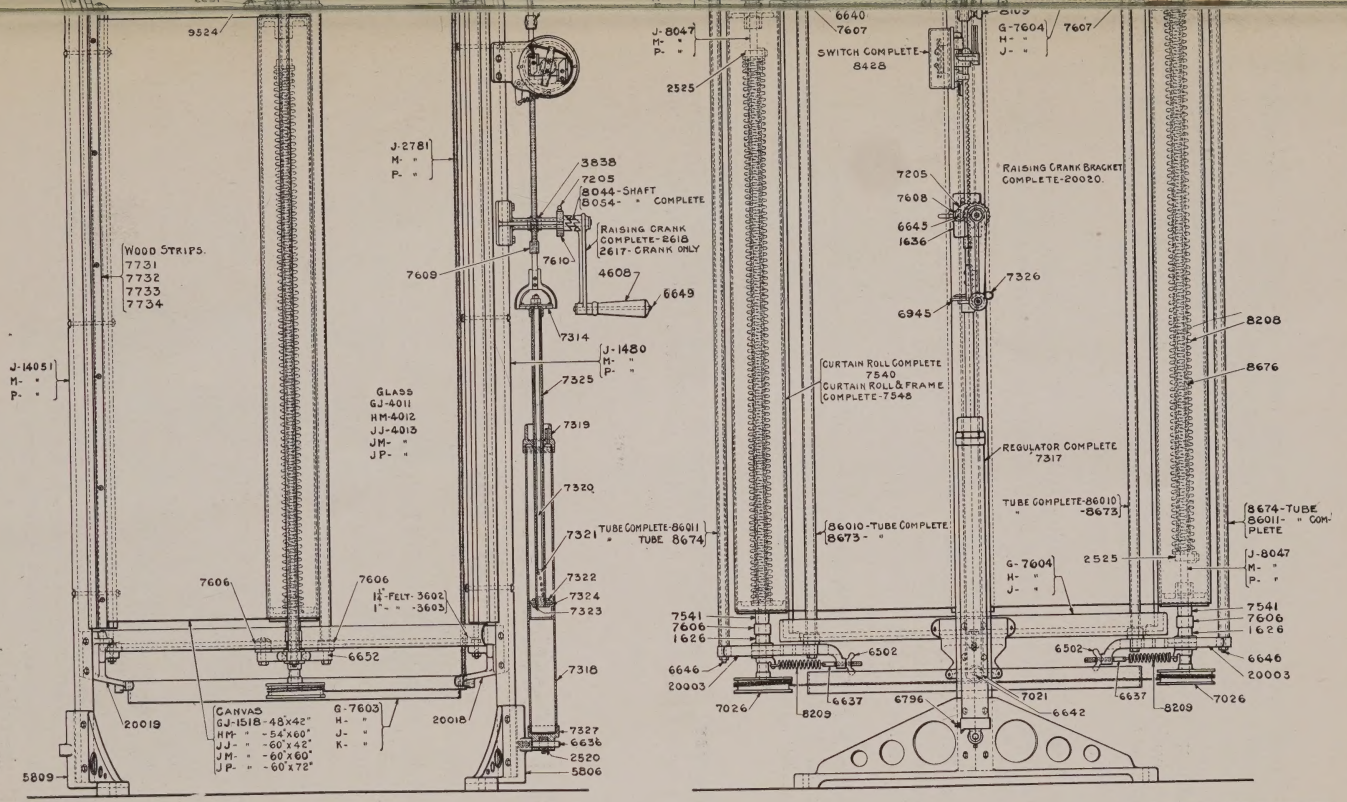




DETAIL OF SWITCH.







VERTICAL PRINTER ASSEMBLY.

DR. BY	APPROV	DATE	SUPERSEDES
A.J.M.		4-8-20	

THE C.F. PEASE CO. P-6416-17

Pease Peerless Heat Resisting Globes and Carbons are best.

THIRD—To Develop wash in clear water from two to five minutes. Best results are obtained using our Pease sheet washer with spray of clean water.

FOURTH—After Washing, the print must be immersed in a fixing bath; or if using a spray wash, brush over lightly with the fixing bath, which is prepared by dissolving one-half ounce of the fixing salts supplied with the paper, to one quart of water.

FIFTH—The Application of the fixing bath for about one minute gives the print a dark brown color; it must be again thoroughly washed with clear running water, and hung up to dry.

SIXTH—It is Absolutely necessary that a brown process print be thoroughly washed; insufficient washing will surely result in a yellow stained background in the finished print.

SEVENTH—To Facilitate Printing the negatives may be transparentized by using either our Perfection or Peerless Transparentizing Solution, either of which dries very quickly and will increase the printing speed of the negatives two or three times.

NOTE—To Prevent Rapid Deterioration we recommend that both blue print and brown process paper be stored in air-tight metal tubes (our figures No. 2763 to 2771).

Special Directions for Use and Adjustment of Oil Control

FIRST—After the Pease Vertical Machine has been used for a long period the speed of the lamp may vary, even though you are starting the indicator at the same point. This is due to the evaporation of the liquid used or to the collection of dust or dirt, or probably to the wear and thickening of the leather washer used as a valve in this regulator.

SECOND—In Nearly Every Case this may be overcome by a thorough cleaning of the regulator, which may be readily removed from the machine by disconnecting at the gear rack just below the hand crank. The top of the regulator may be screwed off, the piston rod and its parts removed, after which thoroughly wash these parts of the regulator and cylinder with kerosene.

THIRD—In Case of Wear showing on the leather cup washer, it would be wise to put in a new one while the cylinder is open. These parts should be replaced in the cylinder and a mixture of 60% kerosene and 40% light machine oil put in. One quart fills the cylinder.

FOURTH—This Mixture may be varied slightly in order to control the maximum or minimum time of the lamp drop which may be required under different temperature conditions. In winter a lighter mixture would probably work better than in summer, when a heavy mixture can be used to excellent advantage.

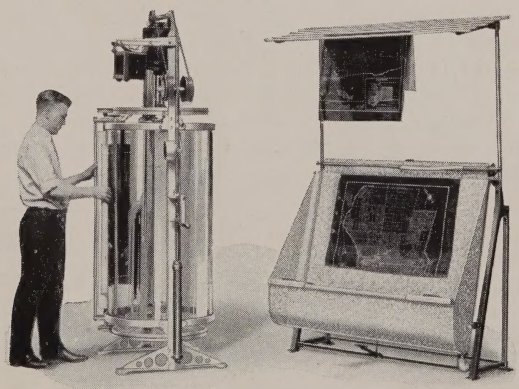
FIFTH—Should the Regulator pump oil over the top or on the floor, when in use, this is an indication that the leather cup washer which acts as a piston has swollen to such an over-size that it will not allow the oil to pass the piston on the upstroke.

SIXTH—This Causes a Small Quantity of oil to be forced out of the top of the regulator cylinder each time the piston goes up. A certain remedy for this trouble is a new leather cup washer—in fact it is the only remedy, and is always successful in eliminating oil leakage.

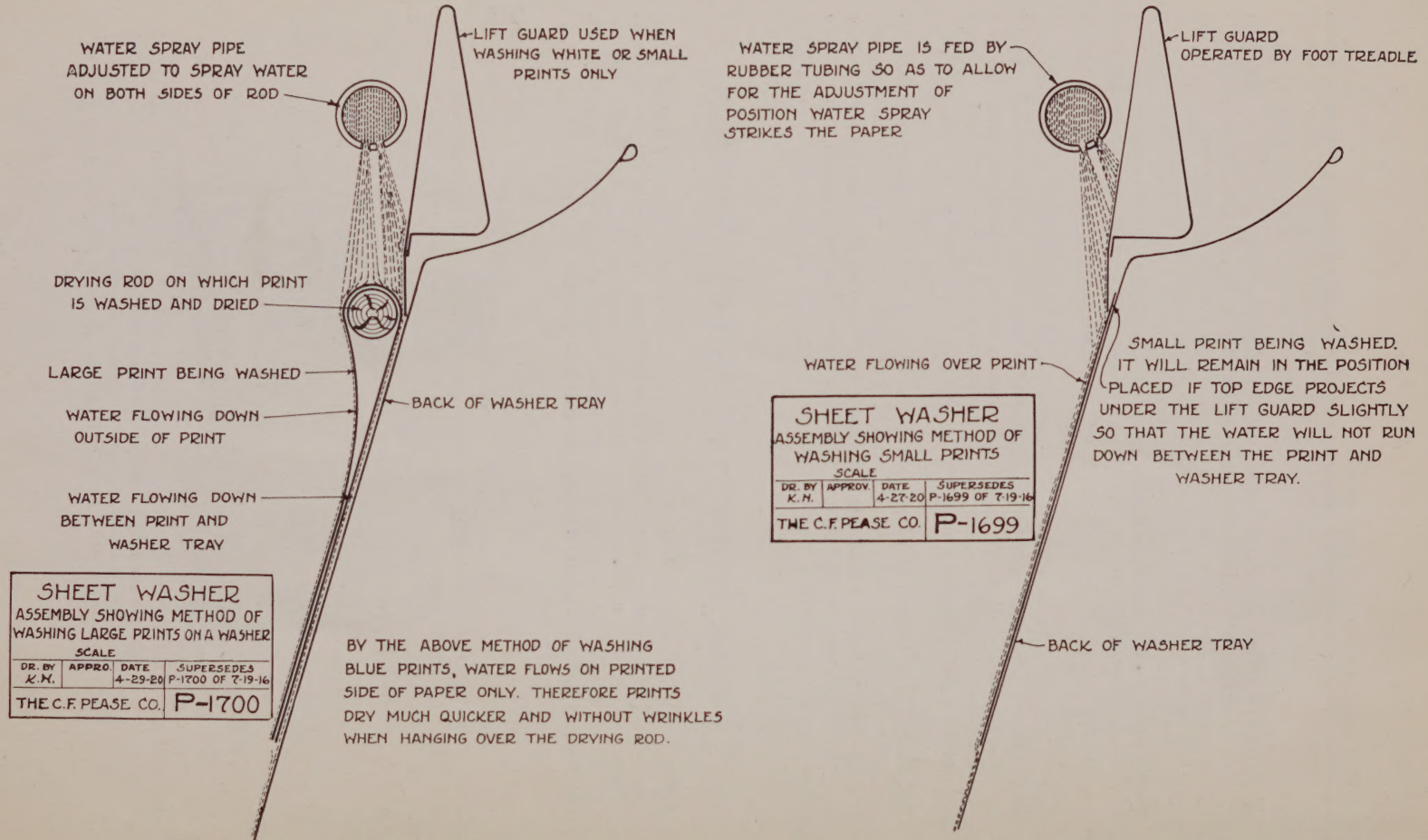
SEVENTH—Should it Happen that the regulator varies its speed from one exposure to the other, it is generally caused by small particles of dirt, or perhaps some of the fibre on the old leather washer gets into the small oil groove in the regulator valve and causes the uneven flow of the oil. A new leather cup washer will also do away with this trouble.

Pease Improved Sheet Washer

THE Pease Improved Sheet Washer has wider flanges and is provided with larger trough than former patterns, thus preventing water from splashing on the floor. The trough is also so arranged that by turning the strainer of the outlet upside down it forms a plug, enabling the operator to accumulate a pool of water in the trough, which may then be used as a bath tray, if desired, for small prints.



Pease Vertical and Sheet Washer—Type G. J.
This equipment specially adapted for school use.
See Title Page for illustration of larger type.


WATER SPRAY PIPE ADJUSTED TO SPRAY WATER ON BOTH SIDES OF ROD
LIFT GUARD USED WHEN WASHING WHITE OR SMALL PRINTS ONLY
DRYING ROD ON WHICH PRINT IS WASHED AND DRIED
LARGE PRINT BEING WASHED
WATER FLOWING DOWN OUTSIDE OF PRINT
BACK OF WASHER TRAY
WATER FLOWING DOWN BETWEEN PRINT AND WASHER TRAY
SHEET WASHER
ASSEMBLY SHOWING METHOD OF WASHING LARGE PRINTS ON A WASHER
SCALE
DR. BY K.N. | APPRO. | DATE 4-29-20 | SUPERSEDES P-1700 OF 7-19-16
THE C.F. PEASE CO. P-1700
BY THE ABOVE METHOD OF WASHING BLUE PRINTS, WATER FLOWS ON PRINTED SIDE OF PAPER ONLY. THEREFORE PRINTS DRY MUCH QUICKER AND WITHOUT WRINKLES WHEN HANGING OVER THE DRYING ROD.
WATER SPRAY PIPE IS FED BY RUBBER TUBING SO AS TO ALLOW FOR THE ADJUSTMENT OF POSITION WATER SPRAY STRIKES THE PAPER
LIFT GUARD OPERATED BY FOOT TREADLE
WATER FLOWING OVER PRINT
SMALL PRINT BEING WASHED. IT WILL REMAIN IN THE POSITION PLACED IF TOP EDGE PROJECTS UNDER THE LIFT GUARD SLIGHTLY SO THAT THE WATER WILL NOT RUN DOWN BETWEEN THE PRINT AND WASHER TRAY.
SHEET WASHER
ASSEMBLY SHOWING METHOD OF WASHING SMALL PRINTS
SCALE
DR. BY K.N. | APPROV. | DATE 4-27-20 | SUPERSEDES P-1699 OF 7-19-16
THE C.F. PEASE CO. P-1699
BACK OF WASHER TRAY

Ask for Pamphlet V-25 giving further description of the Pease Vertical Blue Printing Machine and Sheet Washer.

Directions for Erecting the Pease Blue Print Sheet Washer

See Drawings No. 1699 and No. 1700, on Page 12.

FIRST—When Washer is Set in Position have it connected to your water supply so that you obtain an ample head, placing in the line convenient to the apparatus a stop cock or valve for regulating the supply.

SECOND—The Outlet to the Tray should be connected to the drain, increasing the size of the pipe, but never decreasing it below that of the opening in the tray. It will be advisable to have a union in the water and drain the pipe close to the apparatus.

THIRD—It Will Also Be Advisable to flush out the water pipe before turning water into the spray pipe, so as to wash out all the dirt, sediment, etc., and avoid plugging up the holes in the spray pipe.

FOURTH—Should the Holes appear stopped up at any time they can be cleared out by removing caps at both ends and pulling or pushing a rag through with a wire.

FIFTH—All the Openings in the spray pipe should run a free stream of water, which they will if free from accumulation of dirt and the water pressure is sufficient.

Special Directions for Using the Pease Sheet Washer

Large Blue Prints—See Drawing No. 1700, on Page 12.

FIRST—Turn on the Water and see that it flows over the entire surface of the tray back by brushing any dry streaks showing.

SECOND—Hang the Large Print to be washed over a rod centrally with the exposed side out and hang it onto the machine against the back so that the spray strikes the rod and distributes the water about equally on both sides. Move rod and print sideways two or three times each way or until spray has wet every portion of the sheet.

THIRD—Immediately brush over the entire surface of the print lightly, once only with a wide brush, so as to bring it in contact with the flow of water on both sides; it can then be left to wash any length of time desired.

FOURTH—Hang the Rod with the print upon the rack above to drip and dry.

Small Blue Prints—See Drawing No. 1699.

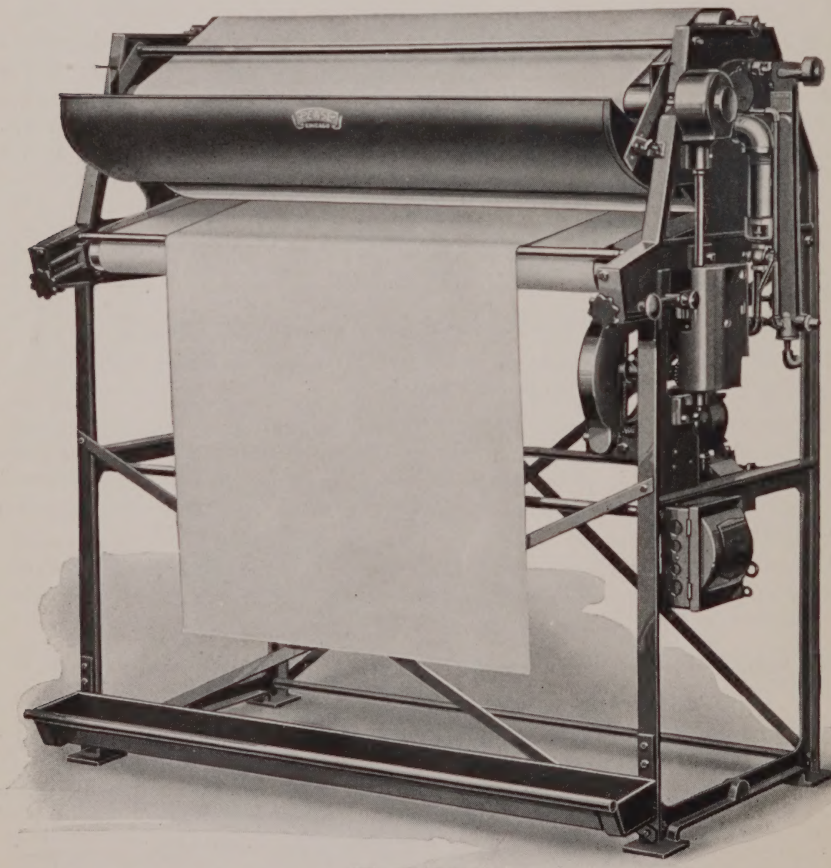
FIRST—Small Prints up to 36x42″ can be washed without hanging on a rod by placing the top edge slightly under the sheet metal guard back of the spray, which can be raised with the foot treadle to facilitate placing print where it will remain without further attention until fully washed. Then it may be hung over one of the drying rods or fastened to same by one edge with a spring clip.

SECOND—In Placing small sheet into washer, move it sideways under the spray in each direction several times, or until print is wet all over the front surface.

The Pease Sheet Dryer

See Page 16 for Diagram Showing Parts Numbers.

DRIES Blue Prints, negative prints and all kinds of photographic prints. In ordering give voltage for motor and state whether direct or alternating current. Can be used to great advantage by users of the Pease Peerless Electric Continuous and Pease Vertical Blue Printing Machines, as well as by users of all makes of blue printing machines. The Pease Sheet Dryer occupies a floor space of only 2½x5 feet. The copper cylinder provided with Pease Sheet Dryers will heat more quickly and retain the heat better than cylinders made of other material. Manufactured in 45 and 22 inch widths—gas and electric heater as desired—single or double belt.



No. 6500A—Pease 45" Sheet Dryer

Instructions for Operating the Pease Sheet Dryer

FIRST—A Patented Thermostat is provided on all gas heated cylinders, and this enables the operator to keep the cylinder at a specific heat, no matter how fast the machine is operated. The gas heater will consume not over 50 cubic feet of gas per hour. Gas should be supplied through a large enough pipe to insure full pressure of the burner. If run is over 6 feet use ½-inch pipe; if over 25 feet use ¾-inch pipe.

SECOND—The Thermostatic Control guarantees that the prints will come through smooth and without wrinkles, regardless of the weight of the paper. The thermostat should be set at the proper position as designated on the dial consistent with the kind of paper used. The best results are obtained when the drum is at high heat.

THIRD—To Operate the Pease Sheet Dryer turn on the motor, then light the gas or turn on the electric heater, and as soon as the cylinder has reached the proper heat place the wet prints on the traveling apron and let them pass around the cylinder into the receiving tray.

FOURTH—Dripping Wet Prints may be placed on the traveling apron and will pass around the cylinder and enter the receiving tray perfectly dried at a speed of eight feet per minute if the cylinder is kept at the proper temperature. To obtain the best results the print should be placed on the traveling apron face down.. Should it be desired to dry more slowly the machine may be thrown into low gear. You can reduce the speed to four feet per minute by simply moving a lever connected with the gear set.

FIFTH—Place the Wet print on the top edge of the brass scraper rod with the end just adhering to the traveling apron, being particular in the case of large prints to see that they are started straight with the print, thus in traveling over the scraper rod all surplus water is removed and drips into the tray below the machine.

SIXTH—Any Stretch of the belt is taken up automatically. Should the belt show a tendency to travel sideways, this can be instantly corrected by slightly turning the hand wheel at either side of the machine. Care should be used to see that the belt is always in adjustment. If it is never allowed to run from one side to the other it will never wrinkle.

SEVENTH—The Electrically heated drum cannot be furnished with the automatic heat control. When an electrically heated drum is desired, an electric dryer of 45 amperes maximum on 220 volts circuit controlled by a series of switches will be furnished. When all switches are thrown on, the drum may be heated within 5 minutes' time. The electric consumption can then be reduced and the heat of the drum maintained. The amount of electricity consumed will be between 8 amperes and 45 amperes, depending on the number of blue prints passing through the machine. This can be regulated by the series of switches to keep the cylinder at the proper temperature.

EIGHTH—To Shut Down the Machine—First turn off the gas or electric heater, then feed into the machine the **Asbestos Apron** just as you would a print. When the asbestos apron has entered the machine far enough to completely surround the drum, turn off the motor. The asbestos apron will thoroughly protect the canvas and prevent scorching or burning. **This is absolutely essential** to prolong the life of the belt and save maintenance expense.

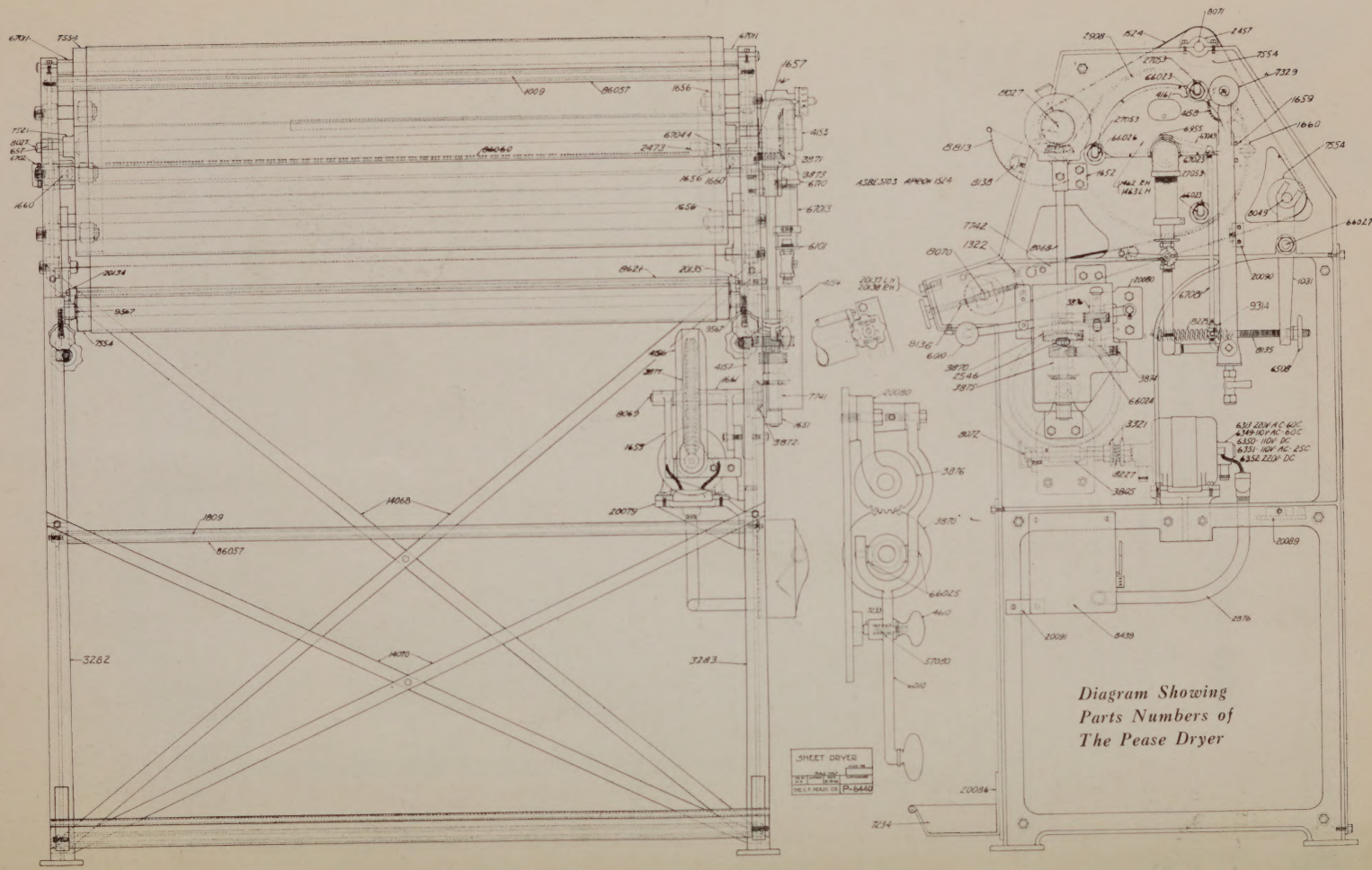


Diagram Showing Parts Numbers of The Pease Dryer